

IN THE CLAIMS:

Claims 1-18 have been amended herein. All of the pending claims 1 through 18 are presented below. This listing of claims will replace all prior versions and listings in the application. Please enter these claims as amended.

1. (Currently Amended) A method for processing semiconductor dice on a wafer ~~in a process~~ comprising:  
determining defects on ~~said the~~ semiconductor dice on ~~said the~~ wafer;  
classifying each of ~~said the~~ defects by size and location, ~~said determining and said classifying~~  
comprising classifying each of ~~said the~~ defects into one of size range populations of defects;  
assigning a weight to ~~said each of said the~~ defects representing an estimated effect of ~~said each of said defects~~ defect on die yield for ~~said the~~ semiconductor dice;  
determining an estimated die yield loss (DYL) for each semiconductor die of ~~said the~~ semiconductor dice based on number and weight of ~~said the~~ defect(s) on ~~said each semiconductor die of said the~~ semiconductor dice, determining ~~said the~~ estimated die yield loss ~~(DYL)~~ DYL including calculating an estimated die yield loss having lower and upper limits;  
summing all ~~said of the~~ DYL of ~~said the~~ semiconductor dice on ~~said the~~ wafer to obtain a wafer yield loss (WYL);  
subdividing the defects into a plurality of size range populations of defects for ~~said the~~ semiconductor dice; and  
determining a relative contribution of each size range population of defects of ~~said the~~ plurality of ~~said the~~ semiconductor dice to ~~said the~~ wafer yield loss WYL.

2. (Currently Amended) The method of claim 1, wherein ~~said determining said the estimated die yield loss (DYL)~~ DYL comprises calculating an estimated die yield loss having lower and upper limits of zero and 1.0, respectively.

3. (Currently Amended) The method of claim 2, wherein ~~said~~ the lower limit comprises a representation of no yield loss attributable to ~~said~~ the defects and ~~said~~ the upper limit comprises a representation of fatal yield loss attributable to ~~said~~ the defects.

4. (Currently Amended) The ~~processing~~ method of claim 1, wherein ~~said~~ subdividing ~~said~~ the defects into ~~said~~ the plurality of size range populations of defects comprises subdividing ~~said~~ the defects into a plurality of 0 to 10 size range populations.

5. (Currently Amended) A method for semiconductor dice on a wafer comprising:  
determining defects on ~~said~~ the semiconductor dice on ~~said~~ the wafer;  
classifying each of ~~said~~ the defects by size and location, ~~said inspecting determining~~ and ~~said~~ classifying comprising classifying ~~said~~ each of ~~said~~ the defects into one of size range populations of defects;  
assigning a weight to ~~said~~ each of ~~said~~ the defects representing an estimated effect of ~~said~~ the defects on die yield for ~~said~~ the semiconductor dice;  
determining an estimated die yield loss (DYL) for each semiconductor die of ~~said~~ the semiconductor dice based on number and weight of ~~said~~ the ~~defect(s)~~ defects on ~~said~~ each semiconductor die of ~~said~~ the semiconductor dice;  
summing all DYL of ~~said~~ the semiconductor dice on ~~said~~ the wafer to obtain a wafer yield loss (WYL);  
subdividing the defects into a plurality of size range populations of defects; and  
determining a relative contribution of each size range population of defects of ~~said~~ the plurality to ~~said~~ wafer yield loss the WYL, ~~said wherein~~ determining the relative contribution of ~~said~~ each size range population of defects of ~~said~~ the plurality to ~~said~~ the wafer yield loss comprises:  
discarding data for ~~said~~ each size range population of defects of ~~said~~ the plurality and  
calculating, in turn, a drop in ~~said~~ wafer yield loss the WYL for combined size range populations excepting the discarded data;

summing the calculated ~~wafer yield losses~~ WYL to obtain a drop sum;  
dividing ~~said the~~ drop sum to determine a relative drop attributable to ~~said each size range~~  
population of defects of ~~said the~~ plurality; and  
randomly selecting defects from ~~said each size range~~ population of defects of the  
plurality.

6. (Currently Amended) The ~~processing~~ method of claim ~~2~~ 5, further comprising:  
randomly selecting defects from ~~said each size range~~ population of defects of ~~said the~~ plurality, a  
number selected from ~~said each size range~~ population of defects of ~~said the~~ plurality in  
proportion to ~~said the~~ relative contribution thereof, ~~said the~~ randomly selected defects  
being weighted to represent defects ~~having~~ having a greatest effect on yield losses.

7. (Currently Amended) The ~~processing~~ method of claim 6, further comprising:  
reviewing ~~said the~~ randomly selected defects and determining in-line action required to reduce  
wafer yield losses.

8. (Currently Amended) The ~~processing~~ method of claim 7, wherein ~~said reviewing~~  
~~said the~~ randomly selected defects includes visual inspection by a microscope.

9. (Currently Amended) The ~~processing~~ method of claim 7, wherein ~~said~~  
determining in-line action comprises determining if an individual semiconductor die of ~~said the~~  
semiconductor dice on ~~said the~~ wafer is acceptable to proceed in a manufacturing process.

10. (Currently Amended) The ~~processing~~ method of claim 5, wherein ~~said inspecting~~  
determining defects on the ~~said semiconductor dice~~ is performed by an automated surface  
inspection tool.

11. (Currently Amended) A method for semiconductor dice in wafer form comprising:  
determining defects of ~~said~~ the semiconductor dice;  
classifying each of ~~said~~ the defects by size and location;  
assigning a weight to ~~said~~ each of ~~said~~ the defects representing an estimated effect of ~~said~~ each of ~~said~~ defects defect on die yield;  
determining an estimated die yield loss (DYL) for each of the semiconductor dice ~~die~~ based on number and weight of ~~said~~ defect(s) the defects on ~~said~~ each ~~said~~ die of ~~said~~ the semiconductor dice;  
summing all DYL of ~~said~~ the semiconductor dice on ~~said~~ the wafer to obtain a wafer yield loss (WYL);  
subdividing the defects into a plurality of size range populations of defects;  
determining a relative contribution of each size range population of defects of ~~said~~ the plurality to ~~said~~ wafer yield loss the WYL;  
randomly selecting defects from ~~said~~ each size range population of defects of the plurality, a number selected from ~~said~~ each size range population of defects of the plurality in proportion to ~~said~~ the relative contribution thereof, ~~said~~ the randomly selected defects weighted to represent defects ~~having~~ having a greatest effect on yield losses; and  
reviewing ~~said~~ the randomly selected defects.

12. (Currently Amended) The method of claim 11, further comprising:  
reviewing ~~said~~ the randomly selected defects and determining in-line action required to reduce ~~said~~ the ~~wafer yield losses~~ WYL.

13. (Currently Amended) The ~~processing~~ method of claim 11, wherein ~~said~~ inspecting on said wafer said dice determining defects and ~~said~~ classifying each of said the defects comprises classifying each of ~~said~~ the defects into one of ~~said~~ the plurality of size range populations of defects.

14. (Currently Amended) The ~~processing~~ method of claim 11, wherein ~~said~~ determining ~~said estimated die yield loss (DYL)~~ the DYL comprises calculating an estimated die yield loss having lower and upper limits of zero and 1.0, respectively.

15. (Currently Amended) The ~~processing~~ method of claim 14, wherein ~~said~~ the lower limit comprises a representation of no yield loss attributable to ~~said~~ the defects and ~~said~~ the upper limit comprises a representation of fatal yield loss attributable to ~~said~~ the defects.

16. (Currently Amended) The ~~processing~~ method of claim 11, wherein ~~said~~ subdividing ~~said~~ the defects into ~~said~~ the plurality of size range populations of defects comprises subdividing ~~said~~ the defects into a plurality of 0 to 10 size range populations.

17. (Currently Amended) The ~~processing~~ method of claim 11, wherein ~~said~~ determining the relative contribution of ~~said~~ each size range population of defects of ~~said~~ the plurality to ~~said wafer yield loss~~ the WYL comprises:  
discarding data for ~~said~~ each size range population of defects of ~~said~~ the plurality and calculating, in turn, a drop in ~~said wafer yield loss~~ WYL for combined size range populations excepting the discarded data;  
summing the calculated drop in ~~wafer yield losses~~ WYL to obtain a drop sum; and  
dividing ~~said~~ the drop sum to determine a relative drop attributable to ~~said~~ each size range population of defects of ~~said~~ the plurality.

18. (Currently Amended) The method of claim 12, wherein ~~said~~ determining in-line action required to reduce ~~said wafer yield losses~~ the WYL comprises determining if an individual semiconductor die of ~~said~~ the semiconductor dice ~~on~~ said in wafer form is acceptable to proceed in a manufacturing process.